

AMENDMENT TO THE CLAIMS

1. (Currently Amended) An apparatus, comprising:
a semiconductor die including active circuitry formed on a frontside and having a plurality of conductive through vias formed therein from the frontside to a backside, the die comprising a power requirement and an external signal requirement;
a plurality of first interconnects formed on a frontside of the die and a plurality of second interconnects formed on a backside of the die, respective ones of the plurality of second interconnects coupled to the plurality of through vias; and
a first package substrate electrically coupled to the plurality of first interconnects and a second package substrate electrically coupled to the plurality of second interconnects,
wherein a portion of at least one of the power requirement and the external signal requirement is supplied through the first package substrate ~~ad~~ and a remainder portion of at least one of the power requirement and the external signal requirement is supplied through the second package substrate.
2. (Original) The apparatus of claim 1, further comprising a first underfill layer between the front side of the die and the first substrate and a second underfill layer between the backside of the die and the second substrate.
3. (Original) The apparatus of claim 1, further comprising a substrate ball electrically coupled between the first and second substrates.
4. (Previously Presented) The apparatus of claim 1, wherein the plurality of the first interconnects and the plurality of the second interconnects comprise solder balls.
5. (Original) The apparatus of claim 1, wherein the semiconductor die is thinned using one selected from the group consisting of a backgrinding process, a chemical mechanical polishing (CMP) process, and a spin etching process.

6. (Original) The apparatus of claim 2, wherein the underfill layers comprise a no-flow underfill material.

7-9. (Canceled)

10. (Previously Presented) A method, comprising:
forming a plurality of conductive through vias in a back side of a semiconductor die including active circuitry on a frontside and coupling a plurality of first interconnects to respective ones of the plurality of through vias;
coupling a plurality of second interconnects to a frontside of the die;
electrically coupling the plurality of first interconnects to a first substrate; and
electrically coupling the plurality of second interconnects to a second substrate,
wherein a portion of at least one of a power requirement of the die and an external signal requirement of the die is supplied through the first substrate and a remainder portion of at least one of the power requirement and the external signal requirement is supplied through the second substrate.

11. (Previously Presented) The method of claim 10, wherein the plurality of through vias connect with the device side.

12. (Original) The method of claim 10, further comprising:
dispensing a first underfill layer on the first package substrate; and
dispensing a second underfill layer on the backside of the semiconductor die.

13. (Original) The method of claim 12, further comprising:
attaching a substrate ball between the first and second package substrates.

14. (Previously Presented) The method of claim 10, wherein the plurality of first interconnects and the plurality of second interconnects comprise solder balls.

15. (Original) The method of claim 10, further comprising thinning the semiconductor die.

16. (Original) The method of claim 10, wherein the first and second underfill layers comprise a no-flow underfill.

17-21. (Canceled)

22. (Previously Presented) An apparatus comprising:
a die including device circuitry on a first side and a second side opposite the front side;
a plurality of contact points on the second side of the die; and
a plurality of conductive through vias coupling the device circuitry to the contact points,
wherein a portion of at least one of a power requirement and an external signal requirement of the die may be met through electrical connections to the contact points.

23. (Previously Presented) The apparatus of claim 22, wherein the contact points comprise a first set of contact points, the apparatus further comprising a second set of contact points on the first side of the die and coupled to the device circuitry, wherein a remainder portion of at least one of the power requirement and the external signal requirement of the die may be met through electrical connections to the contact points.

Respectfully submitted,

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2/17/06
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